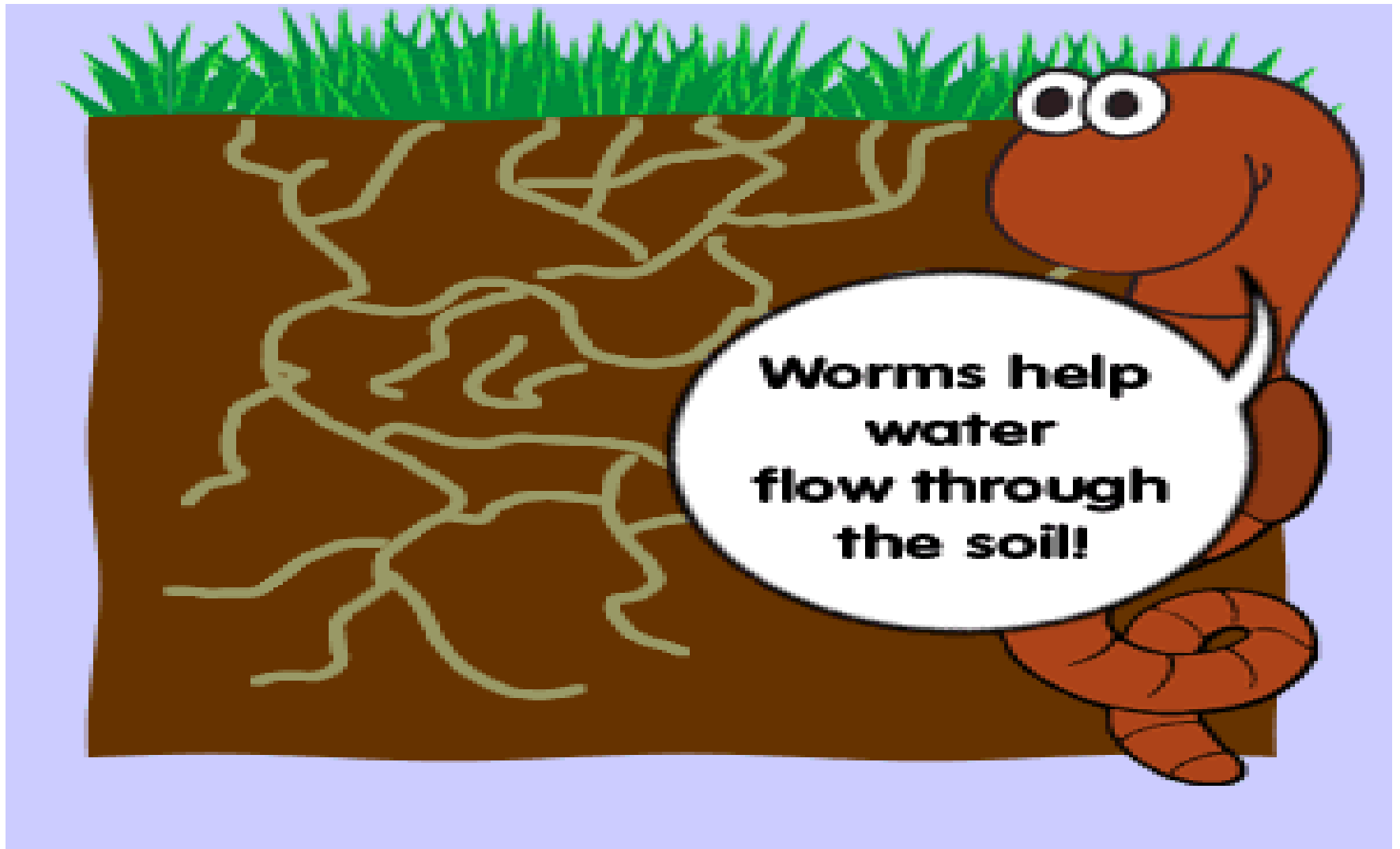


Soils



Soils

- Formed from the erosion process of bedrock
- Erosion is helped by tree roots, worms and other burrowing animals
- Upper layers of soils are usually rich & dark
- This layer is called **Humus** = decayed plants/animals

Soils

- Canada has different soils due to different bioregions
- Composed of 4 different materials:

Soils



Minerals

Soils



Bacteria and Organic Materials

Soils



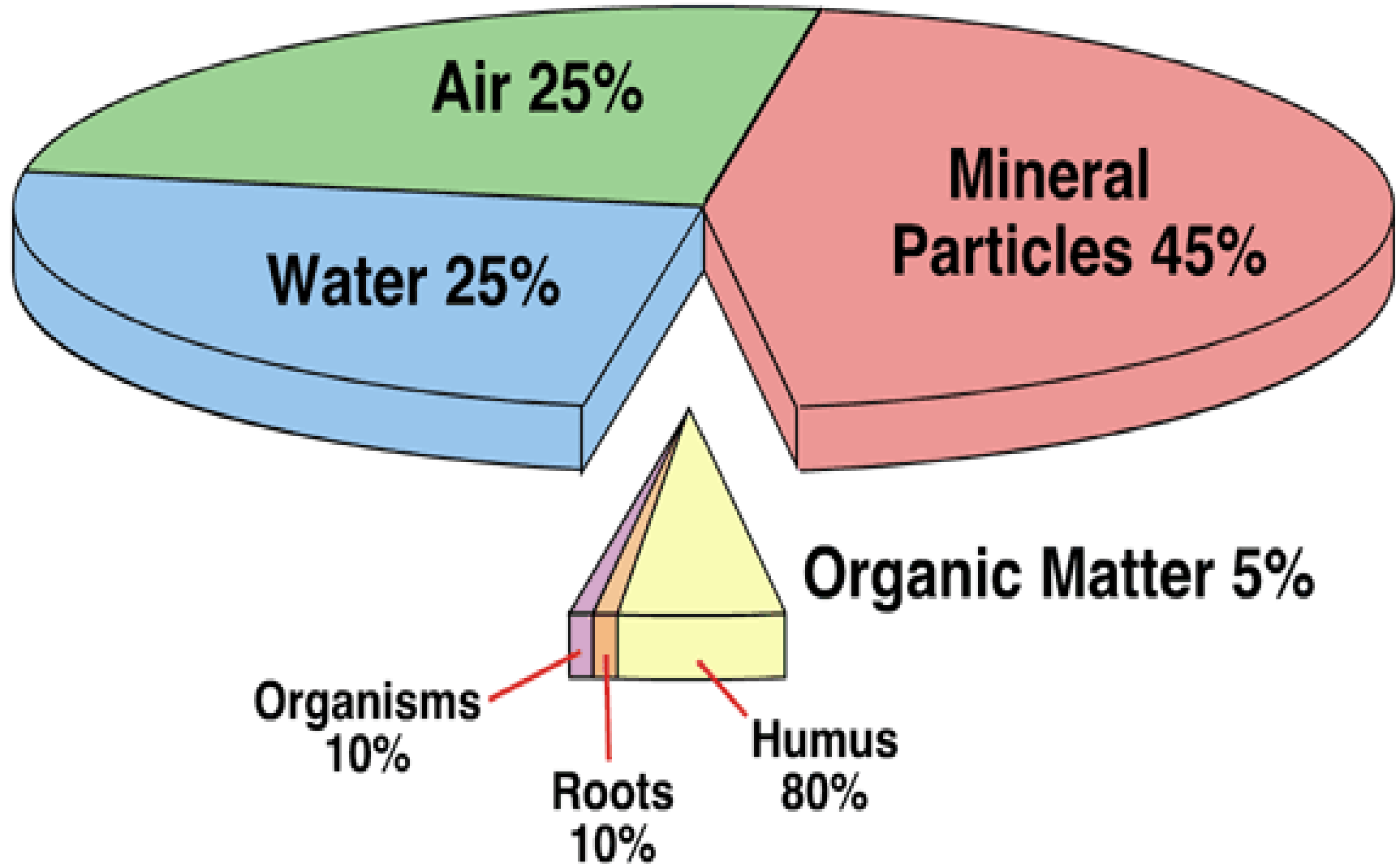
Moisture

Soils



Air

Soil



Soils

1. Minerals

- Mineral materials are added at the bottom by the weathering of the parent material (bedrock)

Soils

2. Bacteria and Organic Materials

- Added at the top from dead plants and decaying animals

Soils

3. Moisture

- Moisture from the air makes soil moist and minerals saturate into soil

Soils

4. Air

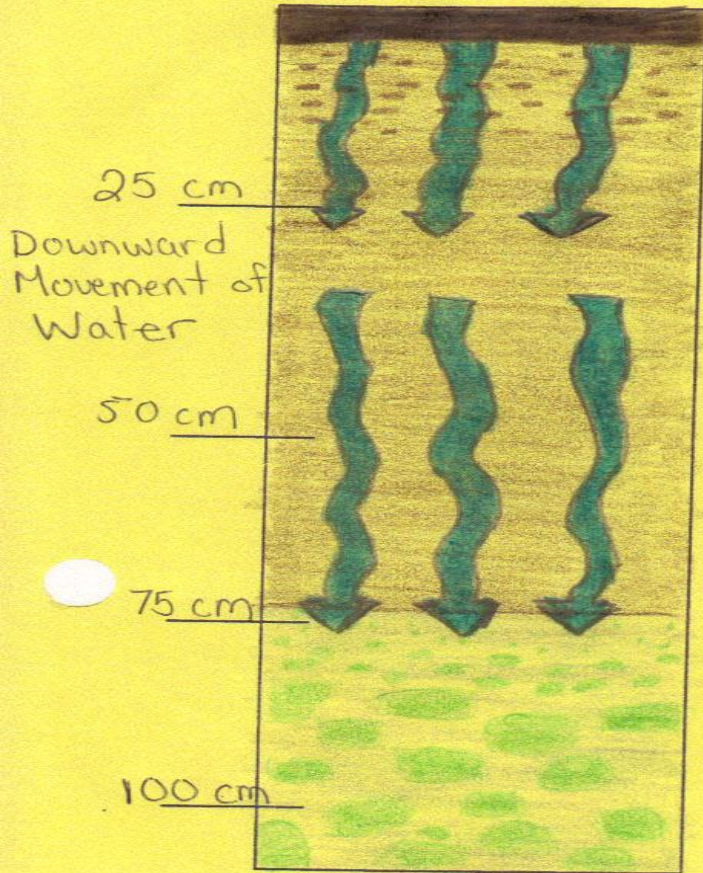
- Minerals from one soil region blow in the wind to other regions, making that soil more saturated and gives it better growing conditions

Soils

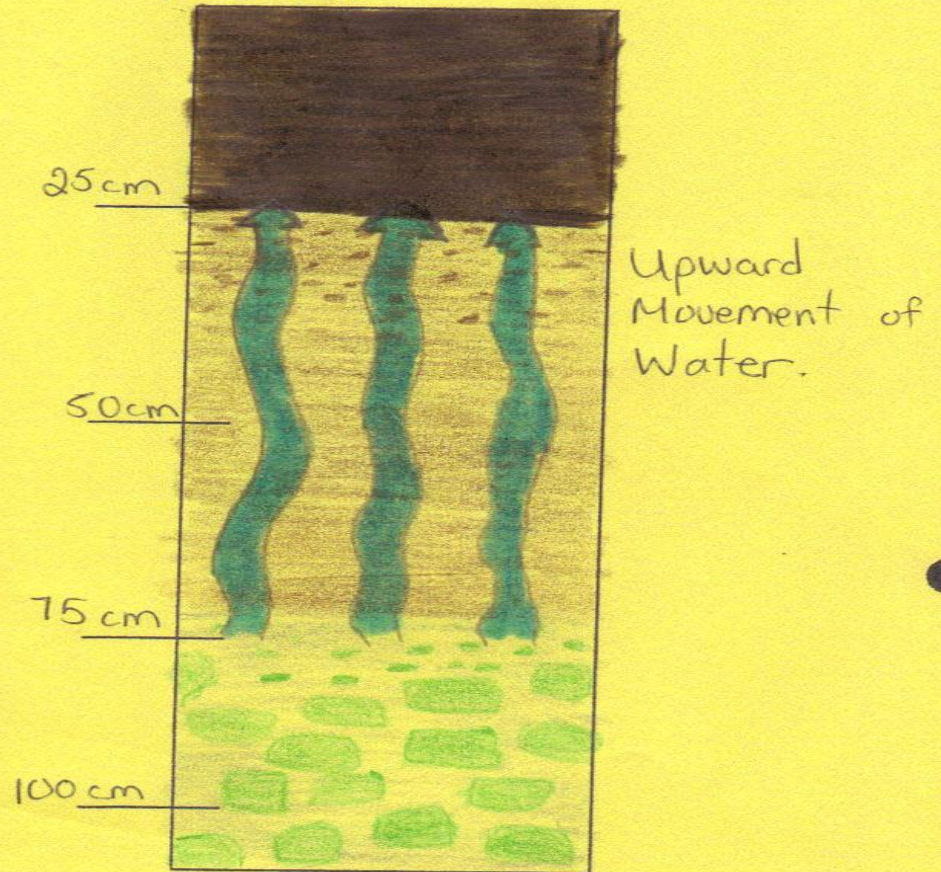
- The top layer of soil, containing the Humus, is called topsoil which forms very slowly
- Two other processes related to climate contribute to soil formation

DIFFERENT SOIL PROFILES

LEACHED



CALCIFIED



INSTRUCTIONS

Examine page 147 of your text book and draw the two main types of soil profiles. Label the horizons, the approximate measurements of where the horizons occur, how the water is moving in the profile, and a description of each horizon.

Soils

Leaching

- Occurs when there is a lot of precipitation
- Water moves downward through the soil
- Water dissolves chemical nutrients and carries them down and away from the plants

Soils

Leaching

- Poor, thin topsoil layer dominated by trees whose roots can better reach the deep minerals
- Can be developed into good farmland by adding fertilizer

Soils

Calcification

- Occurs in areas where there is little precipitation (dry climates)
- Water in topsoil evaporates and water is drawn up from below to replace it
- As water reaches surface, it evaporates leaving behind the minerals that were dissolved in it

Soils

Calcification

- Calcified soils generally have a thick topsoil layer, rich in minerals
- Calcium main mineral deposited near the surface

Soil Map of Canada

- **Chernozems**- thick dark soil under natural grasslands
- **Podzols**: type of soil under areas covered by trees
- **Coniferous Forest**: moist conditions of temperate rain forests generally support an understory of mosses, ecosystem and are notable for trees of massive proportions

Soil Map of Canada

- **Mountain Forest:** These soils are made of rock, boulders and clay. They are in fertile and suitable for cultivation of potatoes, rice, wheat, fruits.
- **Deciduous Forests:** lose their leaves seasonally and soil is saturated with water; most of the trees are maples which thrive under these conditions